

IN THE CLAIMS:

1 1. (original) A method of forming a FinFET comprising the steps of:  
2 forming at least one fin having a fin height and a fin thickness on a silicon  
3 substrate;  
4 forming a gate, having a gate height greater than said fin height and  
5 intersecting said fin in a body area;  
6 forming a conformal layer over said gate and fins;  
7 etching said conformal layer directionally until said conformal layer is  
8 removed in a source/drain area of said fins, thereby forming a gate cover  
9 over said gate up to said fin height; and  
10 increasing said fin thickness while said gate is isolated from said set of fins  
11 by said gate cover.

1 2. (original) A method according to claim 1, in which said gate  
2 height is such that said gate cover has a height greater than or equal to said  
3 fin height after said step of etching said conformal layer.

1     3.     (original)   A method according to claim 1, further comprising a  
2     step of depositing at least one temporary layer over said FinFET;  
3     forming a damascene aperture in said temporary layer intersecting said fin  
4     in a body area of said fins; and  
5     forming a gate in said damascene aperture.

1     4.     (original)   A method according to claim 2, further comprising a  
2     step of depositing at least one temporary layer over said FinFET;  
3     forming a damascene aperture in said temporary layer intersecting said fin  
4     in a body area of said fins; and  
5     forming a gate in said damascene aperture.

1     5.     (original)   A method according to claim 3, further comprising a  
2     step of thinning said fin in said damascene aperture, thereby reducing an  
3     initial fin thickness in a body region of said fin.

1     6.     (original)   A method according to claim 4, further comprising a  
2     step of thinning said fin in said damascene aperture, thereby reducing an  
3     initial fin thickness in a body region of said fin.

1 7. (original) A method according to claim 3, further comprising a  
2 step of depositing an epitaxial material on said fins, thereby increasing an  
3 initial fin thickness.

1 8. (original) A method according to claim 4, further comprising a  
2 step of depositing an epitaxial material on said fins, thereby increasing an  
3 initial fin thickness.

1 9. (original) A method according to claim 5, further comprising a  
2 step of depositing an epitaxial material on said fins, thereby increasing an  
3 initial fin thickness.

1 10. (original) A method according to claim 6, further comprising a  
2 step of depositing an epitaxial material on said fins, thereby increasing an  
3 initial fin thickness.

1 11. (original) A FinFET comprising at least one fin having a fin height  
2 and a fin thickness on a silicon substrate;

3 a gate, having a gate height greater than said fin height formed intersecting  
4 said fin in a body area;  
5 a gate cover layer formed by etching a conformal layer disposed over said  
6 gate and fins;  
7 said conformal layer having been etched directionally until said conformal  
8 layer is removed in a source/drain area of said fins, thereby forming said  
9 gate cover over said gate up to said fin height; and  
10 an epitaxial material increasing said fin thickness while said gate is  
11 isolated from said set of fins by said gate cover.

1 12. (original) A FinFET according to claim 11, in which said gate  
2 height is such that said gate cover has a height greater than or equal to said  
3 fin height after said step of etching said conformal layer.

1 13. (original) A FinFET according to claim 11, in which said gate is  
2 selfaligned to a body of said FinFET;  
3 in a damascene aperture in a temporary layer intersecting said fin in a body  
4 area of said fins.

1 14. (original) A FinFET according to claim 12, in which said gate is  
2 selfaligned to a body of said FinFET;  
3 in a damascene aperture in a temporary layer intersecting said fin in a body  
4 area of said fins.

1 15. (original) A FinFET according to claim 13, in which said fin is  
2 thinned in said damascene aperture, thereby reducing an initial fin  
3 thickness in a body region of said fin.

1 16. (original) A FinFET according to claim 14, in which said fin is  
2 thinned in said damascene aperture, thereby reducing an initial fin  
3 thickness in a body region of said fin.

1 17. (original) A FinFET according to claim 13, in which said fins have  
2 a layer of epitaxial material, thereby increasing an initial fin thickness.

1 18. (original) A FinFET according to claim 14, in which said fins have  
2 a layer of epitaxial material, thereby increasing an initial fin thickness.

1 19. (original) A FinFET according to claim 15, in which said fins have  
2 a layer of epitaxial material, thereby increasing an initial fin thickness.

1 20. (original) A FinFET according to claim 16, in which said fins have  
2 a layer of epitaxial material, thereby increasing an initial fin thickness.